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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,871	03/07/2002	Martin Kreuzer	TRW(ASG)6058	9986

26294 7590 04/21/2006

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EXAMINER	
RODRIGUEZ, PAMELA	

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/092,871	KREUZER ET AL.	
	Examiner	Art Unit	
	Pam Rodriguez	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-11,16 and 18-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-11,16,18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed February 17, 2006 has been received and considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 9-11, 16, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP document no. 05238394 to Yamada in view of DE document no. 19717692 to Pohl (see also the corresponding PG Pub application no. 2002/0185347).

Regarding Claim 9, Yamada discloses most all the features of the instant invention including an assembly comprising a steering wheel 2 and a vibration damping device 7 located within the steering wheel (see Figures 1 and 12).

However, Yamada does not disclose all the claimed particulars of the damping device including the hollow damping body, mass core, and electrical control unit.

Pohl is relied upon merely for his teachings of a vibration damper capable of use in a steering wheel (see Figure 3) having a damping unit including a hollow damping body 31, a mass core 33 acting as an attenuation mass arranged inside the hollow damping body 31 (see Figure 3), and an electrical control unit coupled with the damping unit (see column 3 and the bottom 4 lines of paragraph 0037 in the PGPub document), wherein the ECU is able to alter the vibration frequency of the hollow damping body 31 such that different vibration frequencies can be damped (see the cited column 3 passage above and the abstract of the PBPub document , wherein the mass core 33 located within the hollow body is readable as forming part of the hollow body. Mass core 33 vibrates via piston rod 32's connection with vibrating mass 11. Further, the hollow damping body also includes the ER fluid located therein. This vibration of the mass core/damping body can be altered by varying the viscosity of the ER fluid therein. So if one considers the mass core 33 and the ER fluid as part of the damping body itself, altering the viscosity of the ER fluid would at least alter the vibration frequency of the mass core portion of the damping body, such that different vibration frequencies can be damped).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the damper of Pohl for the damper assembly of Yamada as an alternate means of damping the steering wheel assembly. An electrorheological type of damping means would allow for variable damping, electrically adjustable spring characteristics and electrically adjustable variable natural frequencies to provide better overall damping to the steering wheel (see the abstract of the Pohl PG Pub application).

Regarding Claim 10, see Figure 3 of Pohl, where the housing/body 31 would be elastic at least to some extent.

Regarding Claim 11, see Figure 3 of Pohl, where the damping body 31 is ring-shaped at least to the same extent as applicant's.

Regarding Claim 16, see Claim 1 above and ER fluid 311.

Regarding Claim 22, see Figure 3 of Pohl where mass core 33 is entirely surrounded by the ER fluid 311.

Regarding Claim 23, see Figure 3 of Pohl where mass core 33 is entirely arranged inside the hollow damping body 31.

5. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP document no. 05238394 to Yamada in view of DE document no. 19717692 to Pohl as applied to claims 9-11 and 16 above, and further in view of RD document no. 333099.

Regarding Claims 18 and 19, Yamada, as modified, discloses most all the features of the instant invention as applied above, except for the claimed sensor and control unit actuation.

The RD'099 document is relied upon merely for its teachings of a steering assembly damper having a control unit 4 wherein a sensor (i.e., the vehicular speed and rate and degree of turn sensors shown in the figure) is provided, through which the control unit receives data regarding/effecting vibrations of the steering wheel.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the damper assembly of Yamada, as modified, to include a sensor as taught by the RD '099 document as an additional means of regulating damping. Providing a sensor would enable better overall control of the damping factoring in other conditions of the vehicle at the time damping is needed. (Also, note that EP document no. 1162124 also discloses such a sensor 56 and the examiner's previous remarks in the final rejection mailed June 29, 2005 regarding the use of the RD '099 document).

Regarding Claim 20, see Claim 10.

Regarding Claim 21, see Claim 11.

Response to Arguments

6. Applicant's arguments filed February 17, 2006 have been fully considered but they are not persuasive.

Applicant firstly argues that neither the Yamada or Pohl references disclose that the electrical control unit is able to alter the vibration frequency of the hollow damping body such that different vibration frequencies can be damped. The examiner respectfully disagrees.

In response to this, the examiner wishes to point out that the Yamada reference is not being relied upon to disclose this electrical control unit feature but rather the Pohl reference is cited to disclose this limitation. While applicant's remarks with respect to the damper unit depicted in Figure 3 of the Pohl reference are duly noted, the examiner contends that if the mass core 33 and the ER fluid 311 are taken to form part of the hollow damping body due to their locations within the confines of body 31, at least the vibration frequency of the mass core portion 33 of the body 31 can be altered by varying the viscosity of the ER fluid so that different vibration frequencies can be damped.

Next applicant argues that neither Yamada or Pohl disclose a mass core acting as an attenuation mass arranged inside the hollow damping body. The examiner respectfully disagrees. Pohl, being relied upon to disclose this feature of the claims, does disclose that mass core 33 acts as an attenuation mass located within the damping body 31 at least to some extent. According to Merriam Webster, the term "attenuate" is defined as lessening the amount, force, magnitude, or value of : **WEAKEN**. The mass 33 would at least act to lessen or weaken the vibration force of the damper

assembly as it passes through the ER fluid. In other words, as the mass 33 passes through the ER fluid, it would act to lessen the vibration force on element 11 depending on the viscosity of the ER fluid. Thus, at least to this extent, mass 33 of Pohl meets this claim limitation.

And lastly, applicant argues that neither Yamada or Pohl disclose or suggest a hollow damping body that is made of an elastic material. While applicant's remarks to this effect are duly noted, the examiner contends that even if, as applicant suggests, the damping body 31 of Pohl is made of metal, that metal inherently has some degree of elasticity to it. Elastic is defined as not rigid, flexible, capable of ready change or easy expansion. The damping element 31 of Pohl could possess any of these features and thus is still readable on this claim limitation.

Regarding new claims 22 and 23, note the examiner's rejections of these claims above.

It is for these reasons that the rejections have been maintained.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pam Rodriguez whose telephone number is 571-272-7122. The examiner can normally be reached on Mondays 5:30 AM -4 PM and Tuesdays 5 AM -11 AM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim McClellan can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pam Rodriguez
Primary Examiner
Art Unit 3683
4/17/06

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